



TUTORS' ROLE & RESPONSIBILITY IN (PBL): PROS AND CONS OF SUBJECT EXPERT AND TUTORIAL PROCESS EXPERT LITERATURE OVERVIEW

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ABSTRACT

We are adopting a hybrid learning strategy in our college of which the problem-based learning is a cornerstone. The subject of problem based-tutoring is a matter of great debate among our staff members. Defining the role of and, the criteria of the tutor need to be clarified. We carried out this mini literature review to identify the responsibilities of the problem-based learning (PBL) tutor and to find who is better; content expert tutor or process expert tutor for the efficient running of the PBL session.

KEYWORDS: Problem Based Learning, Tutor.

1. INTRODUCTION:

1.1 Background:

Problem-based learning (PBL) was introduced first into the medical curriculum at McMaster University in Canada thirty years ago. It has now been incorporated as part of a hybrid curriculum at many medical schools worldwide.(1) PBL is considered an excellent opportunity for students to take responsibility for their learning and to develop a good acumen of cognitive skills.(2) It is a well-recognized teaching approach that is characterised, by student' centeredness of the learning process.(3) In many student-centred curricula, the teachers work in small groups with students. Guiding small groups is a rather complex, and the teachers (the so-called tutors) need to stimulate the students in the group towards constructive, self-directed, contextual and collaborative learning.(4)

1.2 Basic concepts of PBL

McMaster University Medical School in Canada in 1969 started a new educational format called problem-based learning (PBL). It demands from the learner acquisition of critical knowledge, problem-solving ability, self-directed learning strategies, and team participation skills. It is both a curriculum format and a learning process that empowers students to take more responsibility for their learning.(5) Students, work on a PBL scenario/case in three main steps: opening session in groups, individual studies, and discussion/end phase.(6) The learning characteristics and objectives of PBL include the development of effective student-centered, self-directed learning skills and the construction of knowledge through an integrated reasoning process for application in clinical cases.(7)

During the process of PBL session, the tutors play an essential role in facilitating and efficiently structuring tutorials to enable the students to construct individual cognitive networks that have a significant impact on students' performance in subsequent assessments.(8) Both subject-matter expertise and process expert should have the ability of tutoring to facilitate the learning process for the students.(9) Tutors in (PBL) tutorials have a complex role to play in facilitating students' learning. The role of the tutor includes providing support for students' to acquire knowledge, and skills in critical thinking. Help the students in the coaching of group processes and modelling of reflective practice.(10) The function of the tutor in PBL differs considerably from that of the tutor in conventional tutorials in which case the tutor assumes a comparatively didactic role.(11) In the Occupational Therapy (OT) Programme at McMaster University, the role of the tutor is seen to be critical to the development of problem-based learning (PBL) and self-directed learning as well.

2. PBL AND THE TUTORING

Tutoring skills are grouped into two categories: group dynamic and tutorial discussion content. The group dynamic is related to the flow of the tutorial discussion and interpersonal interaction; whereas discussion content involves the accuracy of the tutorial discussion, critical thinking training, and hypothesis generation ability.(12) One of the major determinants of the quality and the success of problem-based learning is the ability of the tutor to facilitate an efficient learning environment within the small-group.(13) The gold standard for tutoring is the supports the students and facilitation of the process by posing questions that stimulate the reflection as well as in-depth elaboration on information and suggestions for problem-solving.(6) Recruitment of tutors to work in (PBL) programs is challenging, especially in that most of them are graduated from disci-

pline-based programs.(14) We do agree with Barrows who claimed that the task of the tutor in a problem-based tutorial group; should be to facilitate the learning of students rather than to convey the knowledge..(15)

Discussion

The traditional role of the PBL facilitator has largely been confined to the processes and practices within the PBL tutorial. However, PBL facilitators' expertise (content knowledge, pedagogical experience, and the PBL process) and experience (as scientists, health professionals, and educators) can add value to other aspects of a medical program, such as curriculum development and assessment.(16) The problem-based learning tutor is not authoritarian. Barrows and Tamblyn believed that the tutor should have expertise in group facilitation (process expertise) rather than in a subject area (content expertise) which is a little away from our belief that the subject expert can facilitate the process better than the non-expert. Ross disliked the tutorial label; he viewed problem-based learning sessions more as professional strategy meetings than teaching sessions.(17) In PBL, the tutor facilitates or activates the group to ensure that students' progress satisfactorily through the problem. According to Margetson, the tutor does this by "questioning, probing, encouraging critical reflection, suggesting and challenging in helpful ways—but only where necessary" this can be carried out by the content expert where he knew the key areas on the subject. Most new tutors in problem-based learning are in the challenge in deciding when and how are they part of the intervention.(17) (18) In reflecting on how the prospective PBL tutor might prepare for the role of learning facilitator, seven elements were identified for anagogical learning process design. These can be paraphrased as follows:(15)

1. Climate setting: helping the learners become acquainted with each other as persons and as mutual learner resources, develop the skills of self-directed learning and understanding the role of the tutor;
2. Planning: Deciding on how tutorials will run and how the tutorial process and function decisions are made.
3. Designing needs for learning: consideration of how the tutor can frame content objectives so that students can take ownership of the learning process and compare their existing knowledge with the required objectives;
4. Setting goals: helping the students translate the diagnosed needs into clear, feasible learning objectives;
5. Designing a learning plan: aiding the students to tailor their learning plans, develop strategies for accessing resources.
6. Engaging in learning activities: whereby the tutor considers what part of the learning should be his/her responsibility and what the students should be responsible for, collectively or individually;
7. Evaluating learning outcomes: how to give constructive feedback to the students so as to enhance the self-directed learning process.

Ways to be a great PBL facilitator

- Interested and enthusiastic
- Forget lecturing
- Tolerate silence
- Get students talking to each other and not to him
- Make sure the group agree on learning issues before the group ends
- Promote the use of accurate current information resources as students research their learning issues
- Remember the learning outcomes of the case and course
- Establish a good learning environment for the group
- Be himself

2.1 Expert & Non-Expert Tutor:

There is a complex range of meanings for the label “expert PBL tutor” in published articles and reports. Tutors are often labelled “expert” according to their content expertise rather than their process expertise, as defined by: (18)

1. Their own or the researcher’s rating
2. Different frames of reference—for example for a whole (or a group of) problem-based learning case scenario(s)/module(s), or for specific topics/learning objectives within sessions
3. Being in a particular discipline (which would conflict with the role of problem-based learning as a vehicle for integrated education)
4. Being medically qualified or not
5. Being an academic (compared with a non-academic or a student tutor)

Despite years of primary research on problem-based learning and literature reviews, no systematic effort has been made to analyse the relationship between tutor characteristics and student learning outcomes; which create the debate between subject expert and non-expert tutors. (19) Leary H et al... results surprisingly, found that student learning decreases as tutor experience increases. (19) The question of the effect of the tutor expertise on student learning has raised considerable controversies in the literature. (20) Much has been researched as to whether a content expert or a non-content expert leads to the most optimal outcome in students’ performance in PBL it was measured mainly in the form of achieving the learning objectives. (21) This debate within the literature is a relation to whether the best PBL tutors are primarily content experts. One of the potential problems with subject-expert and knowledgeable tutors is that they are tempted to interrupt the group discussion too often compared with non-expert tutors. (2)

Studies investigated the effectiveness of content experts compared with that of non-experts as measured either by student satisfaction or academic achievement. Few have compared academic staff tutors with student tutors. (11) Researchers investigating process differences between content expert and non-content expert tutors found that content expert tutors tend to use their subject-matter expertise more to direct the discussion in the tutorial group while Non-content expert tutors use their process-facilitation expertise more to direct the tutorial group. (10) In one study the results revealed no significant difference exists in student performance in the overall course grade. That is between students guided by expert tutors and non-expert tutors after controlling for the effects of other covariates. (7) The PBL tutor is a master of many trades holding a unique position in medical education. He is a combination of a facilitator of learning, a content expert who skillfully uses his knowledge mindfully within the context of the wider curriculum. As well as a mentor, a team builder, and a person who cares about the welfare of the student and his fellow tutors. (21) In a study of Brazilian medical students’ perceptions of subject-matter expertise about PBL facilitators, they believe that subject-matter expertise is a crucial factor in virtually all aspects of the PBL learning process. (3)

A key to the success of the PBL is the role of the facilitator, which is considered a basic determinant of how the tutorial group functions. However, tutor characteristics and role are inconsistent. (22) There has been considerable debate about the role of subject expert and non-expert tutors in facilitating PBL session. (20) Who will be more effective and better in facilitating the learning process? Expert or non-expert. The tutor must be informed about and be accurately aware of his/her role and specific duties as identified by the particular institution to be effective in student learning in the small group PBL session. Training through workshops, where appropriate by role-playing is a key element. Trained facilitators should develop a clear understanding of what they should and should not do in the tutorial. (23) Coaching in PBL is a dynamic, facilitative process that makes a particular contribution to the learning process from psychological, emotional, and social perspectives. (24)

The switch from disseminator of information to a facilitator of learning can be challenging for new tutors. Often they express uncertainty about the function of the tutor. How should directive the tutor is within the group? What are the necessary facilitation skills for effective group functioning? Does the tutor need to be a

content expert as well as a skilled facilitator? (25) Tutoring in problem-based learning is not without its challenges. (26) The role of the tutors in PBL has prompted several studies like whether the tutor should be an expert at tutoring or an expert in the subject matter. The pivotal role of tutors in productive small group discussion is facilitating students’ learning process, or tutorial skills for active learning in PBL need not be overemphasised. (26) However, the degree to which the tutor should facilitate the group process, whether the role is best accomplished by a faculty member or by an advanced student is not clear. (27)

The tutor’s role is to facilitate the PBL process, while the students are reasoning through the problem rather than giving information or a mini-lecture on the problem. (28) Because of this facilitation of the process and reasoning of the problem content; the tutor at least should have minimum content knowledge of the block learning outcome. Hence, the tutor should listen attentively, facilitating the learning process and asking triggering questions appropriately. If he is a process tutor only, he would not be able to understand what is going on. A universal feature of Problem-based learning is the use of authentic, ill-structured, real-world problems to stimulate and organize all learning. (29) One of the central tenets of PBL as an educational approach is that it should assess the processes as well as the products of learning. (30) Thus critical thinking, situation analysis, inquiry skills, problem-solving skills, teamwork skills, participation skills and reflective practice skills can only be better fascinated by content expert and not a process expert.

The tutor’s role mainly is to put the problem in context, prioritizing issues and encourages group members to participate. Also, assists with group dynamics and keeping timing and checking reporter’s accurate records. (31) So, the tutorial process expert can carry this array of functions, but because he lacks training in the medical knowledge, he cannot help students to derive learning outcomes. Moreover, the principal idea behind problem-based learning is that the starting point for learning should be a problem. In the usual approach, the students are assumed to have the knowledge required to approach a problem before they can start on the problem. (32) However, in PBL, the knowledge arises from work on the problem that is; the problem is a learning opportunity to gain new information. Then who can help students better to achieve this, the content tutor or the process tutor? It goes without say it; the content tutor is far much eligible than the process tutor.

Samy A. Azer 2005 wrote, “group facilitation is about process rather than content.” (33) In this article, the author confined the tutors’ role in helping the students to increase their skills and progress in their discussion. He added that “several studies have highlighted strategies and training used in preparing PBL tutors. However, PBL tutors usually feel that it is not that easy to change their teaching style to the PBL format.”; this implicitly shows that tutors in PBL should be content experts. The authors strongly agree with him that tutors cannot resist the temptation to teach the group. However, this can be resolved by training and not resort to non-content expert in PBL. The main roles of the tutor he should be prepared to review the objectives of the session, provide clear direction and facilitates the learning process; (34) This explicitly shows that tutors in PBL cannot be a non-content expert in PBL. Unlike the content expert who is evidently able to review the objectives of the session to facilitate group learning. To our understanding, tutors should have a good knowledge of the curriculum concerned, which will give them a sound overview of the other areas related to the problem under study. It is critical that the PBL tutor for case sessions to have good knowledge of the overall curriculum, specific PBL cases and how they fit within the semester and educational methodologies (e.g. formative assessment, evaluation); (28) Thus is further concrete solid evidence that tutors must be content experts. Due, to the fact that process’ expert would not be able to have an overview of the curriculum; because of their training in the process only.

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